IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Ruiz Caston et al.
Application No. 10/576,778
Filed: April 21, 2006
Confirmation No. 6010
For: PROCESS FOR PRODUCING IN YEASTS EMPTY VIRAL CAPSIDS CONSISTING OF PROTEINS DERIVED FROM PVP2 OF THE INFECTIOUS BURSAL DISEASE VIRUS (IBDV)
Examiner: Not yet assigned
Art Unit: 1642
Attorney Reference No. 7572-74819-01

CERTIFICATE OF MAILING
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Attorney for Applicants

Date of Deposit: March 7, 2007

INFORMATION DISCLOSURE STATEMENT PURSUANT TO 37 C.F.R. § 1.97(b)(3)

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Listed on the accompanying form PTO-1449 and enclosed herewith are several English-language and/or non-English-language documents. The relevance of the non-English-language documents can be ascertained from the English-language abstract attached to each non-English-language document. Applicants respectfully request that these documents be listed as references cited on the issued patent.

Copies of United States patents and United States published patent applications do not have to be provided to the Patent Office (37 C.F.R. 1.98(a)(2)(ii)). Copies of unpublished U.S. applications do not have to be provided, as long as the application is available on PAIR, as this requirement of 37 C.F.R. § 1.98(a)(2)(iii) has been waived by the United States Patent and Trademark Office pursuant to the Official Gazette Notice on October 19, 2004 (1287 OG 163). Applicants will provide copies of such patents or applications upon request.

Applicants filed this Information Disclosure Statement ("IDS") before the mailing date of a first Office action on the merits. As a result, no fee should be required to file this IDS.

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The filing of this IDS shall not be construed to be an admission that the information cited in the statement is, or is considered to be, prior art or otherwise material to patentability as defined in 37 C.F.R. §1.56.

Respectfully submitted,

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cc: Docketing

Attorney Docket Number	7572-74819-01
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

U.S. PATENT DOCUMENTS

Copies of U.S. patent documents do not need to be provided, unless requested by the Patent and Trademark Office. For patents, provide the patent number and the issue date. For published U.S. applications, provide the publication number and the publication date. For unpublished pending patent applications, provide the application number and the filing date.

Examiner's Initials*	Cite No. (optional)	Number	Publication Date	Name of Applicant or Patentee
		2002/0165176	November 7, 2002	HAYNES *et al.*
		2003/0152592	August 14, 2003	BOOT *et al.*
		2003/0175301	September 18, 2003	COHEN *et al.*
		2004/0005338	January 8, 2004	BACHMANN *et al.*
		2004/0116664	June 17, 2004	DE FILETTE *et al.*
		2004/0223976	November 11, 2004	BIANCHI *et al.*
		2005/0003349	January 6, 2005	KAWAOKA
		2005/0009008	January 13, 2005	ROBINSON *et al.*
		2005/0186621	August 25, 2005	GALARZA *et al.*
		2006/0024670	February 2, 2006	LUKE *et al.*
		2006/0251623	November 9, 2006	BACHMANN *et al.*
		2006/0121468	June 8, 2006	ALLNUTT *et al.*
		2006/0121567	June 8, 2006	VAKHARIA
		5,290,686	March 1, 1994	KENDAL *et al.*
		5,605,827	February 25, 1997	JACKWOOD *et al.*
		5,605,792	February 25, 1997	JACKWOOD *et al.*
		5,614,409	March 25, 1997	AZAD *et al.*

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		5,616,327	April 1, 1997	JUDD *et al.*
		5,641,490	June 24, 1997	PAOLETTI *et al.*
		5,658,572	August 19, 1997	PAOLETTI *et al.*
		5,788,970	August 4, 1998	VAKHARIA *et al.*
		5,871,744	February 16, 1999	VAKHARIA *et al.*
		5,916,879	June 29, 1999	WEBSTER
		5,932,426	August 3, 1999	BARALLE *et al.*
		6,017,759	January 25, 2000	VAKHARIA *et al.*
		6,114,112	September 5, 2000	JACKWOOD
		6,156,314	December 5, 2000	VAKHARIA *et al.*
		6,169,175	January 2, 2001	FRACE *et al.*
		6,231,868	May 15, 2001	VAKHARIA *et al.*
		6,274,147	August 14, 2001	VAKHARIA *et al.*
		6,406,843	June 18, 2002	SKEELES and NEWBERRY
		6,458,362	October 1, 2002	CASAL *et al.*
		6,528,063	March 4, 2003	STRAM *et al.*
		6,596,280	July 22, 2003	VAKHARIA *et al.*
		6,602,705	August 5, 2003	BARNETT *et al.*
		6,764,684	July 20, 2004	SAITOH *et al.*
		6,872,395	March 29, 2005	KAWAOKA

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		6,936,256	August 30, 2005	VAKHARIA
		6,964,769	November 15, 2005	SEBBEL *et al.*
		7,022,327	April 4, 2006	LÜTTICKEN *et al.*

FOREIGN PATENT DOCUMENTS

Examiner's Initials*	Cite No. (optional)	Country	Number	Publication Date	Name of Applicant or Patentee
		EPC	EP 0 861 665 A1	September 2, 1998	Dimminaco AG/SA/LTD.
		EPC	EP 0 887 412 B1	December 30, 1998	Akzo Nobel NV
		EPC	EP 1 069 187 A1	January 17, 2001	Stichting Dienst Landbouwkundig Onderzoeck
		EPC	EP 1 621 612 A1	February 1, 2006	Bionostra, S.L. and Consejo Superior de Investigaciones Científicas
		Japan	5194597A	August 3, 1993	Nippon Seibutsu Kagaku Kenkyus
		WIPO	WO 93/03145 A1	February 18, 1993	Virogenetics Corporation
		WIPO	WO 95/26196 A1	October 5, 1995	The University of Maryland College Park
		WIPO	WO 98/09646 A1	March 12, 1998	University of Maryland Biotechnology Institute
		WIPO	WO 98/33522 A1	August 6, 1998	Dimminaco AG
		WIPO	WO 98/50071 A1	November 12, 1998	Chiron Corporation
		WIPO	WO 99/16866 A1	April 8, 1999	University of Maryland Biotechnology Institute
		WIPO	WO 00/37649 A2	June 29, 2000	University of Maryland Biotechnology Institute
		WIPO	WO 01/97839 A1	December 27, 2001	Meristem
		WIPO	WO 02/00885 A2	January 3, 2002	American Cyanamid Company

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		WIPO	WO 02/088339 A2	November 7, 2002	Institut National de la Recherche Agronomique (INRA)
		WIPO	WO 02/096940 A2	December 5, 2002	ID-Lelystad, Institut Voor Dierhouderij En Diergezondheid B.V.
		WIPO	WO 03/013597 A1	February 20, 2003	University of Maryland Biotechnology Institute
		WIPO	WO 03/024480 A2	March 27, 2003	Cytos Biotechnology AG
		WIPO	WO 03/024481 A2	March 27, 2003	Cytos Biotechnology AG
		WIPO	WO 03/074552 A1	September 12, 2003	Akzo Nobel N.V.
		WIPO	WO 2004/003143 A2	January 8, 2004	Allnutt and Kyle
		WIPO	WO 2004/007538 A2	January 22, 2004	Cytos Biotechnology AG
		WIPO	WO 2004/025263 A2	March 25, 2004	Advanced Bionutrition Corporation
		WIPO	WO 2004/087900 A1	October 14, 2004	Consejo Superior de Investigaciones Científicas and Bionostra, S.L.
		WIPO	WO 2005/049794 A2	June 2, 2005	University of Georgia Research Foundation, Inc.
		WIPO	WO 2005/071068 A1	August 4, 2005	Consejo Superior de Investigaciones Científicas and Bionostra, S.L.
		WIPO	WO 2005/071069 A1	August 4, 2005	Consejo Superior de Investigaciones Científicas and Bionostra, S.L.
		WIPO	WO 2006/027698 A1	March 16, 2006	Chiron Behring Gmbh & Co.
		WIPO	WO 2006/032674 A1	March 30, 2006	Cytos Biotechnology AG

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		BIRGHAN *et al.*, "A non-canonical lon proteinase lacking the ATPase domain employs the Ser-Lys catalytic dyad to exercise broad control over the life cycle of a double-stranded RNA virus," *Embo J.*, 19:114-123, 2000.
		BÖTTCHER *et al.*, "Three-dimensional structure of infectious bursal disease virus determined by electron cryomicroscopy," *J. Virol.*, 71:325-330, 1997.
		CASTÓN *et al.*, "C terminus of infectious bursal disease virus major capsid protein VP2 is involved in definition of the T number for capsid assembly," *J. Virol.*, 75:10815-10828, 2001.
		CHEVALIER *et al.*, "The maturation process of pVP2 requires assembly of infectious bursal disease virus capsids," *J. Virol.*, 76:2384-2392, 2002.
		CHEVALIER *et al.*, "The last C-terminal residue of VP3, glutamic acid 257, controls capsid assembly of infectious bursal disease virus," *J. Virol.*, 78:3296–3303, 2004.
		CHUNG *et al.*, "Sequence analysis of the bicistronic Drosophila X virus genome segment A and its encoded polypeptides," *Virology*, 225:359-368, 1996.
		DA COSTA *et al.*, "The capsid of infectious bursal disease virus contains several small peptides arising from the maturation process of pVP2," *J. Virol.*, 76:2393-2402, 2002.
		DA COSTA *et al.*, "Blotched snakehead virus is a new aquatic birnavirus that is slightly more related to avibirnavirus than to aquabirnavirus," *J. Virol.*, 77:719-725, 2003.
		FERNÁNDEZ-ARIAS *et al.*, "Expression of ORF A1 of infectious bursal disease virus results in the formation of virus-like particles," *J. Gen. Virol.*, 79:1047-1054, 1998.
		FERNÁNDEZ-ARIAS *et al.*, "The major antigenic protein of infectious bursal disease virus, VP2, is an apoptotic inducer," *J. Virol.*, 71:8014-8018, 1997.
		GALARZA *et al.*, "Virus-like particle (VLP) vaccine conferred complete protection against a lethal influenza virus challenge," *Viral. Immunol.*, 18:365-372, 2005.
		HU *et al.*, "Chimeric infectious bursal disease virus-like particles expressed in insect cells and purified by immobilized metal affinity chromatography," *Biotechnol. Bioeng.*, 63:721-729, 1999.
		HU and BENTLEY, "Effect of MOI ratio on the composition and yield of chimeric infectious bursal disease virus-like particles by baculovirus co-infection: deterministic predictions and experimental results," *Biotechnol. Bioeng.* 75:104-119, 2001.
		IONESCU *et al.*, "Pharmaceutical and immunological evaluation of human papillomavirus viruslike particle as an antigen carrier," *J. Pharm. Sci.*, 95:70-79, 2006.
		JAGADISH *et al.*, "Expression and characterization of infectious bursal disease virus polyprotein in yeast," *Gene*, 95:179-186, 1990.

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		JEGERLEHNER *et al.*, "Influenza A vaccine based on the extracellular domain of M2: weak protection mediated via antibody-dependent NK cell activity," *J. Immunol.* 172:5598-5605, 2004.
		KADONO-OKUDA *et al.*, "Baculovirus-mediated production of the human growth hormone in larvae of the silkworm, *Bombyx mori*." *Biochem. Biophys. Res. Commun.*, 213:389-396, 1995.
		KATAGIRI and INGHAM, "Enhanced production of green fluorescent fusion proteins in baculovirus expression system by addition of secretion signal," *Biotechniques*, 33:24-26, 2002.
		KIBENGE *et al.*, "Formation of virus-like particles when the polyprotein gene (segment A) of infectious bursal disease virus is expressed in insect cells," *Can. J. Vet. Res.*, 63:49-55, 1999.
		KINGSMAN *et al.*, "Yeast retrotransposon particles as antigen delivery systems," *Ann. N. Y. Acad. Sci.*, 754:202-213, 1995.
		KOCHAN *et al.*, "Characterization of the RNA binding activity of VP3, a major structural protein of IBDV," *Arch. Virol.*, 148:723-744, 2003.
		LEJAL *et al.*, "Role of Ser-652 and Lys-692 in the protease activity of infectious bursal disease virus VP4 and identification of its substrate cleavage sites," *J. Gen. Virol.*, 81:983-992, 2000.
		LEONG *et al.* (Eds.), "Virus TaxonomyThe Classification and Nomenclature of Viruses: Seventh Report of International Committee on Taxonomy of Viruses," Academic Press, San Diego, pp. 481–490, 2000.
		LEUSCH *et al.*, "A novel host-vector system for direct selection of recombinant baculoviruses (bacmids) in *Escherichia coli.*," *Gene*, 160:191-194, 1995.
		LO-MAN, *et al.*, "A recombinant virus-like particle system derived from parvovirus as an efficient antigen carrier to elicit a polarized Thl immune response without adjuvant," *Eur. J. Immunol.*, 28:1401-1407, 1998.
		LOMBARDO *et al.*, "VP1, the putative RNA-dependent RNA polymerase of infectious bursal disease virus, forms complexes with the capsid protein VP3, leading to efficient encapsidation into virus-like particles," *J. Virol.*, 73:6973-6983, 1999.
		LOMBARDO *et al.*, "VP5, the nonstructural polypeptide of infectious bursal disease virus, accumulates within the host plasma membrane and induces cell lysis," *Virology*, 277:345-357, 2000.
		LUCKOW *et al.*, "Efficient generation of infectious recombinant baculoviruses by site-specific tranposon-mediated insertion of foreign genes into a baculovirus genome propagated in *Escherichia coli.*," *J. Virol.*, 67:4566-4579, 1993.

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		MACREADIE *et al.*, "Passive protection against infectious bursal disease virus by viral VP2 expressed in yeast," *Vaccine*, 8:549-552, 1990.
		MARAVER *et al.*, "Identification and molecular characterization of the RNA polymerase-binding motif of the inner capsid protein VP3 of infectious bursal disease virus," *J. Virol.*, 77:2459-2468, 2003.
		MARAVER *et al.*, "The Oligomerization Domain of VP3, the Scaffolding Protein of Infectious Bursal Disease Virus, Plays a Critical Role in Capsid Assembly," *J. Virol.*, 77:6438–6449, 2003.
		MARTÍNEZ-TORRECUADRADA *et al.*, "Different architectures in the assembly of infectious bursal disease virus capsid protein expressed in insect cells," *Virology*, 278:322-331, 2000.
		MARTÍNEZ-TORRECUADRADA *et al.*, "Structure-dependent efficacy of infectious bursal disease virus (IBDV) recombinant vaccines," *Vaccine*, 21:3342-3350, 2003.
		OÑA *et al.*, "The C-terminal domain of the pVP2 precursor is essential for the interaction between VP2 and VP3, the capsid polypeptides of infectious bursal disease virus," *Virology*, 322:135-142, 2004.
		PITCOVSKI *et al.*, "Development and large-scale use of recombinant VP2 vaccine for the prevention of infectious bursal disease of chickens," *Vaccine*, 21:4736-4743, 2003.
		POUS *et al.*, "Structure of birnavirus-like particles determined by combined electron cryomicroscopy and X-ray crystallography," *J. Gen. Virol.*, 86:2339–2346, 2005.
		QIU *et al.*, "Expression and characterization of virus-like particles containing rubella virus structural proteins," *J. Virol.*, 68:4086-4091, 1994.
		RAZZINI *et al.*, "Low-density lipoprotein (LDL) receptor/transferrin fusion protein: in vivo production and functional evaluation as a potential therapeutic tool for lowering plasma LDL cholesterol.," *Hum. Gene Ther.*, 15:533-541, 2004.
		SÁNCHEZ and RODRÍGUEZ, "Proteolytic processing in infectious bursal disease virus: identification of the polyprotein cleavage sites by site-directed mutagenesis," *Virology*, 262:190-199, 1999.
		SCHMIDT *et al.*, "Binding of external ligands onto an engineered virus capsid.," *Protein Eng.*, 14:769-774, 2001.
		SHARMA *et al.*, "Infectious bursal disease virus of chickens: pathogenesis and immunosuppression," *Dev. Comp. Immunol.*, 24:223-235, 2000.
		SHIN and FOLK, "Formation of polyomavirus-like particles with different infectious bursal disease virus, plays a critical role for capsid formation," *J. Virol.*, 77:11491-11498, 2003.
		SHIVAPPA *et al.*, "Development of a subunit vaccine for infectious pancreatic necrosis virus using a baculovirus insect/larvae system," *Dev. Biol. (Basel)*, 121:165-174, 2005.

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		TACKEN *et al.*, "Interactions *in vivo* between the proteins of infectious bursal disease virus: capsid protein VP3 intereacts with the RNA-dependent RNA polymerase, VP1," *J. Gen. Virol.*, 81:209-218, 2000.
		VAKHARIA *et al.*, "Infectious bursal disease virus structural proteins expressed in a baculovirus recombinant confer protection in chickens," *J. Gen. Virol.*, 74:1201-1206, 1993.
		VAKHARIA, "Development of recombinant vaccines against infectious bursal disease," *Biotechnol. Ann. Rev.*, 3:151-168, 1997.
		VAN DEN BERG *et al.*, "Infectious bursal disease (Gumboro disease)," *Rev. Sci. Tech.*, 19:527-543, 2000.
		VEENENDAAL *et al.*, "*In vitro* and *in vivo* studies of a $VEGF_{121}$/rGelonin chimeric fusion toxin targeting the neovasculature of solid tumors," *Proc. Natl. Acad. Sci. U.S.A.*, 99:7866-7871, 2002.
		WANG *et al.*, "Self-assembly of the infectious bursal disease virus capsid protein, rVP2, expressed in insect cells and purification of immunogenic chimeric rVP2H particles by immobilized metal-ion affinity chromatography," *Biotechnol. Bioeng.* 67:104-111, 2000.
		YAO and VAKHARIA, "Generation of infectious pancreatic necrosis virus from cloned cDNA," *J. Virol.*, 72:8913-8920, 1998.

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